09852235 "050104

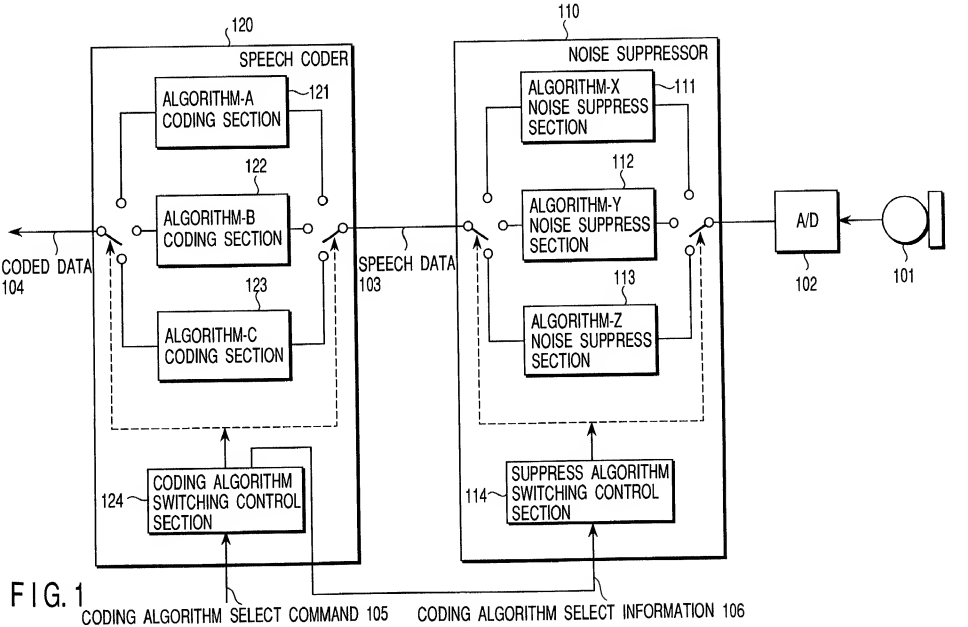

FIG. 1

OBLON, SPIVAK, ET AL.
DOCKET #: 208371US2S
INV.: TAKAYUKI TANIGUCHI, et al.
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0852235-051001

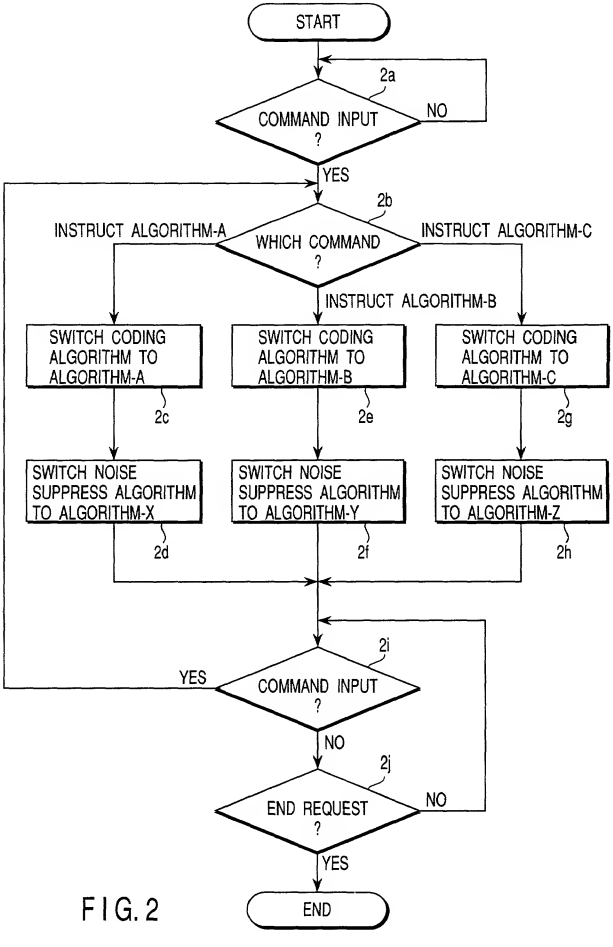

FIG. 2

OBLON, SPIVAK, ET AL.
DOCKET #: 20837US2S
INV: Takayuki TANIGUCHI, et al.
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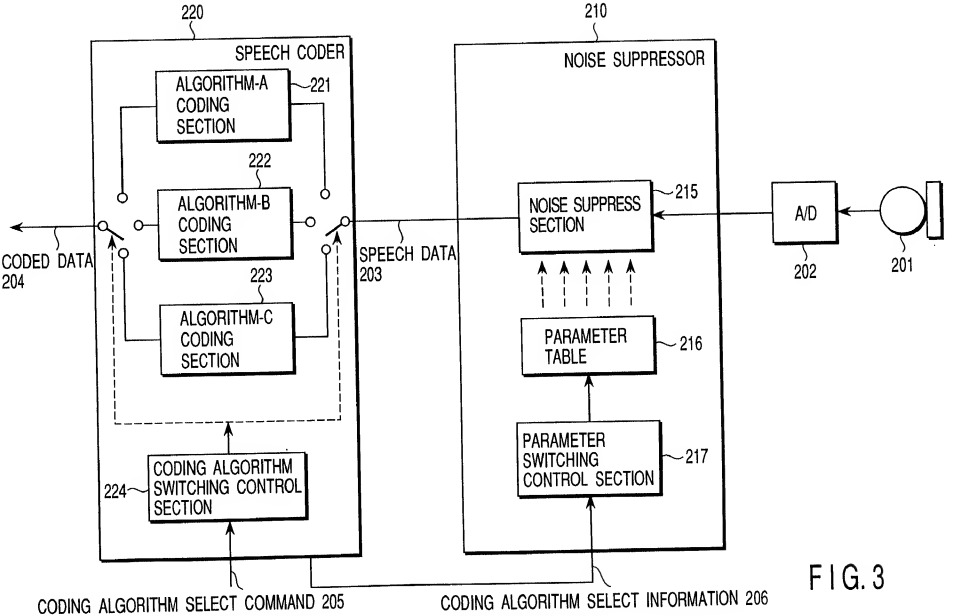

FIG. 3

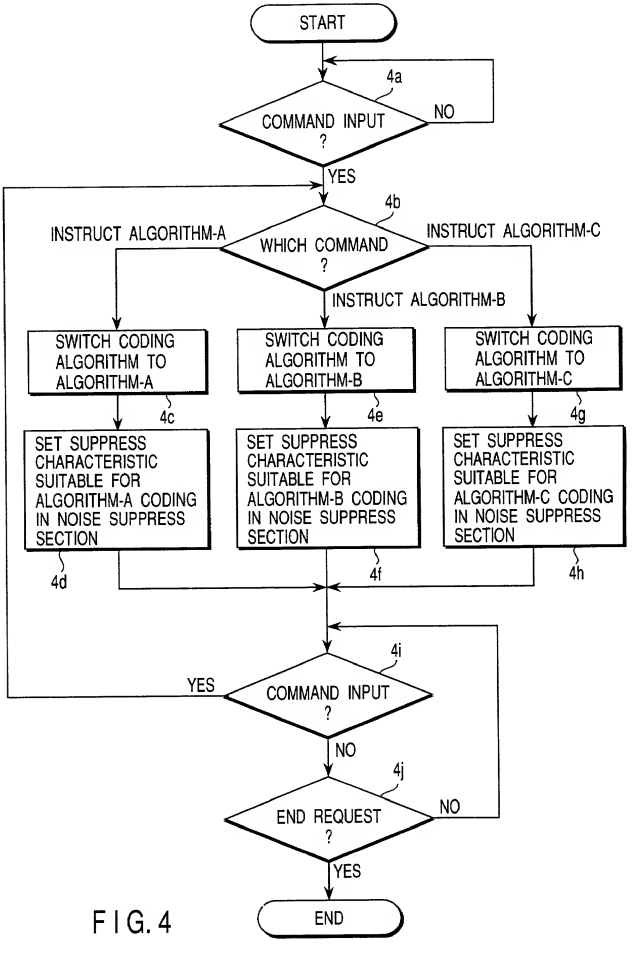
START
4a
COMMAND INPUT ?
NO
YES
4b
WHICH COMMAND ?
INSTRUCT ALGORITHM-A
INSTRUCT ALGORITHM-B
INSTRUCT ALGORITHM-C
SWITCH CODING ALGORITHM TO ALGORITHM-A
SWITCH CODING ALGORITHM TO ALGORITHM-B
SWITCH CODING ALGORITHM TO ALGORITHM-C
4c
4e
4g
SET SUPPRESS CHARACTERISTIC SUITABLE FOR ALGORITHM-A CODING IN NOISE SUPPRESS SECTION
SET SUPPRESS CHARACTERISTIC SUITABLE FOR ALGORITHM-B CODING IN NOISE SUPPRESS SECTION
SET SUPPRESS CHARACTERISTIC SUITABLE FOR ALGORITHM-C CODING IN NOISE SUPPRESS SECTION
4d
4f
4h
4i
COMMAND INPUT ?
YES
NO
4j
END REQUEST ?
NO
YES
END

FIG. 4

09225860 "05100

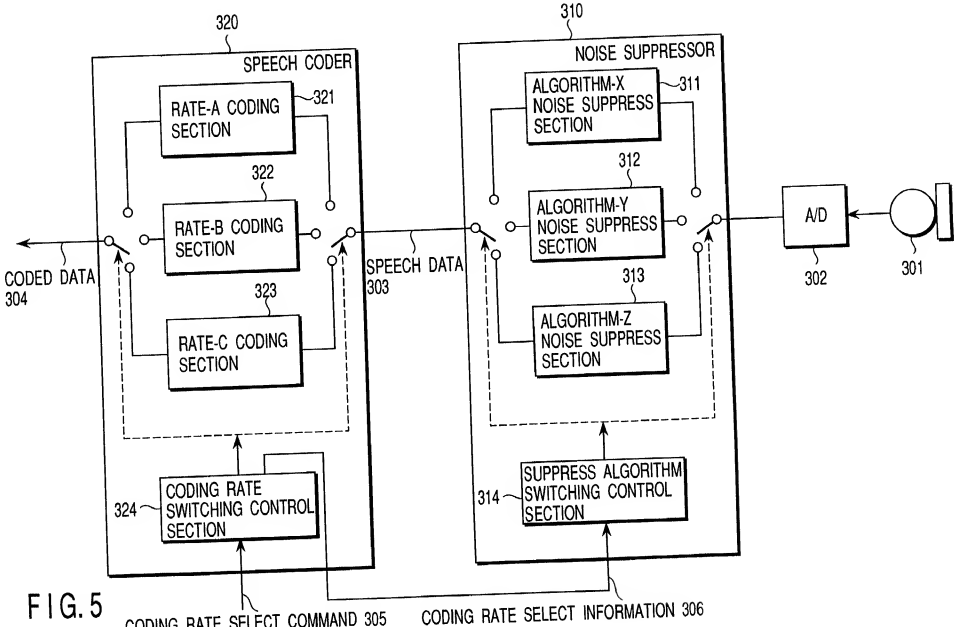

FIG. 5

OBLON, SPIVAK, ET AL.
DOCKET #: 208371US2S
INV.: Takayuki TANIGUCHI, et al.
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09852235.051001

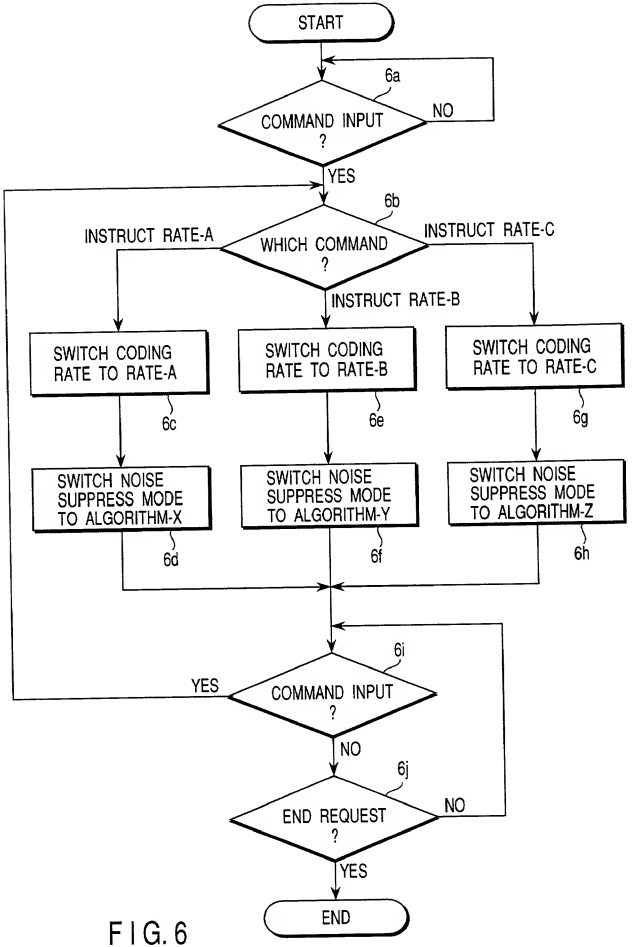

FIG. 6

OBLON, SPIVAK, ET AL.
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INV: Takayuki TANIGUCHI, et al.
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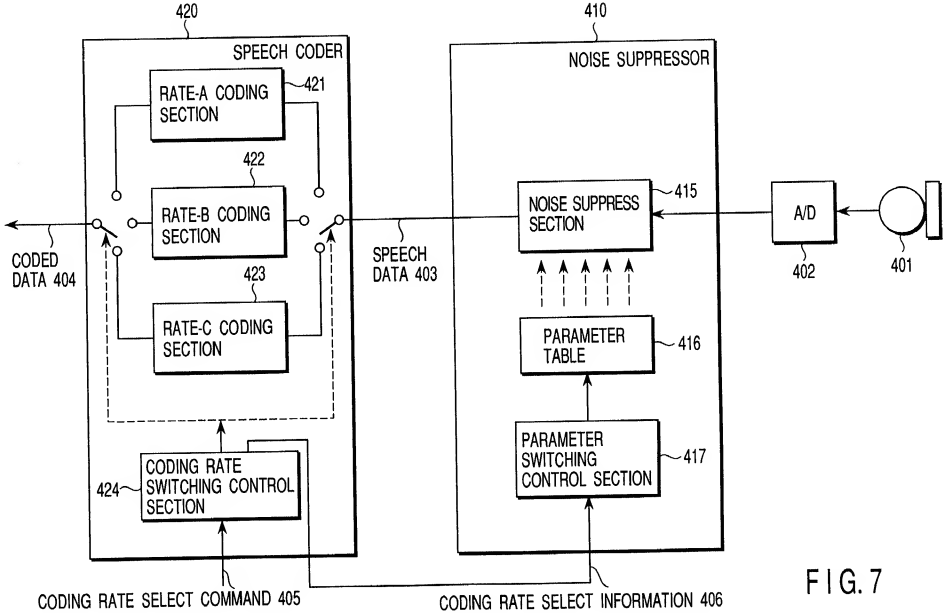

FIG. 7

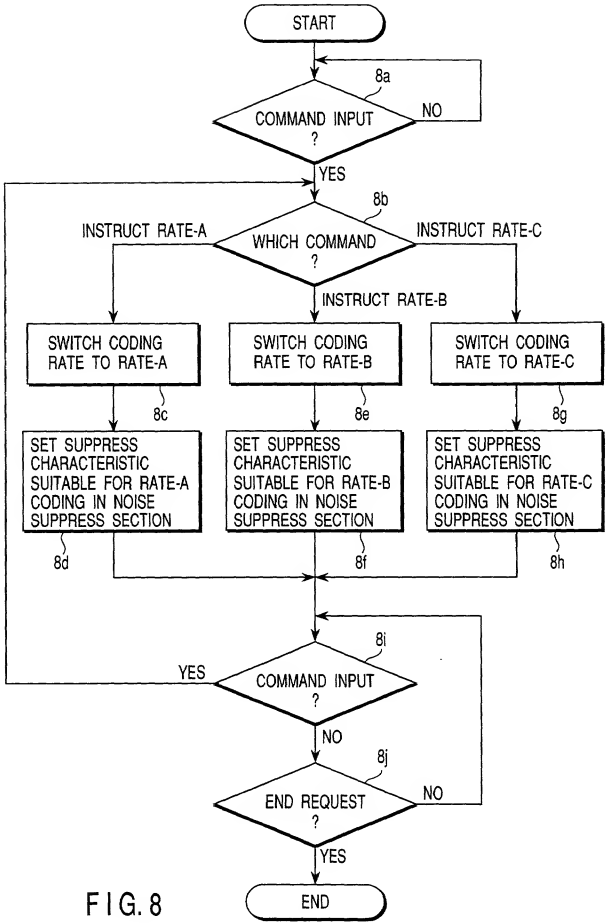
START
8a
COMMAND INPUT ?
NO
YES
8b
WHICH COMMAND ?
INSTRUCT RATE-A
INSTRUCT RATE-B
INSTRUCT RATE-C
SWITCH CODING RATE TO RATE-A
SWITCH CODING RATE TO RATE-B
SWITCH CODING RATE TO RATE-C
8c
8e
8g
SET SUPPRESS CHARACTERISTIC SUITABLE FOR RATE-A CODING IN NOISE SUPPRESS SECTION
SET SUPPRESS CHARACTERISTIC SUITABLE FOR RATE-B CODING IN NOISE SUPPRESS SECTION
SET SUPPRESS CHARACTERISTIC SUITABLE FOR RATE-C CODING IN NOISE SUPPRESS SECTION
8d
8f
8h
8i
YES
COMMAND INPUT ?
NO
8j
END REQUEST ?
NO
YES
END

FIG. 8

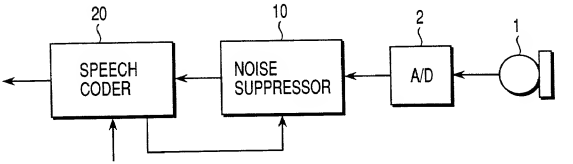
20
10
2
1
SPEECH CODER
NOISE SUPPRESSOR
A/D

FIG. 9

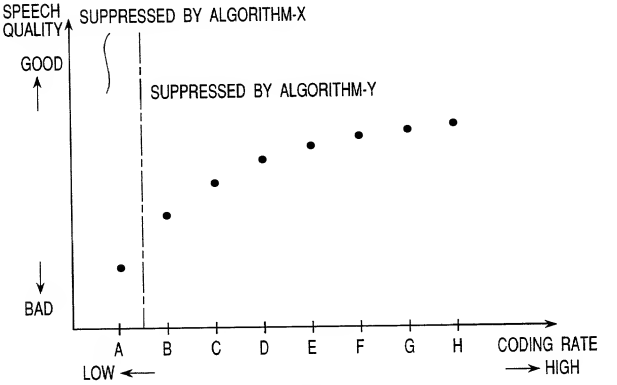
SPEECH QUALITY
SUPPRESSED BY ALGORITHM-X
GOOD
SUPPRESSED BY ALGORITHM-Y
BAD
A
B
C
D
E
F
G
H
CODING RATE
LOW
HIGH

FIG. 11

EP 0 982 935 A2

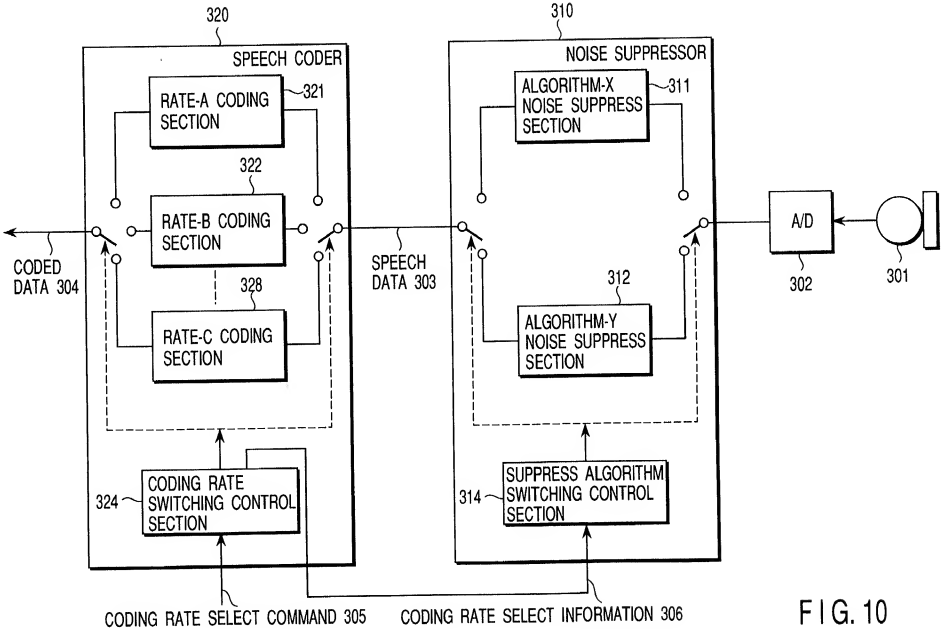

FIG. 10

OBLON, SPIVAK, ET AL.
DOCKET #: 208371US2S
INV.: Takayuki TANIGUCHI, et al.
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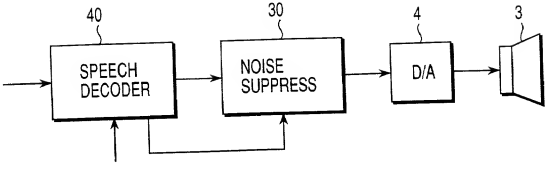

FIG. 12

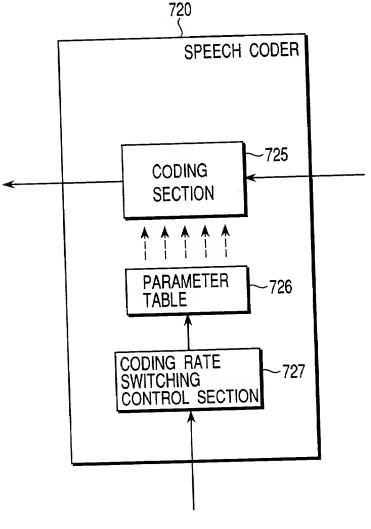

FIG. 15

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0001501 5E225860

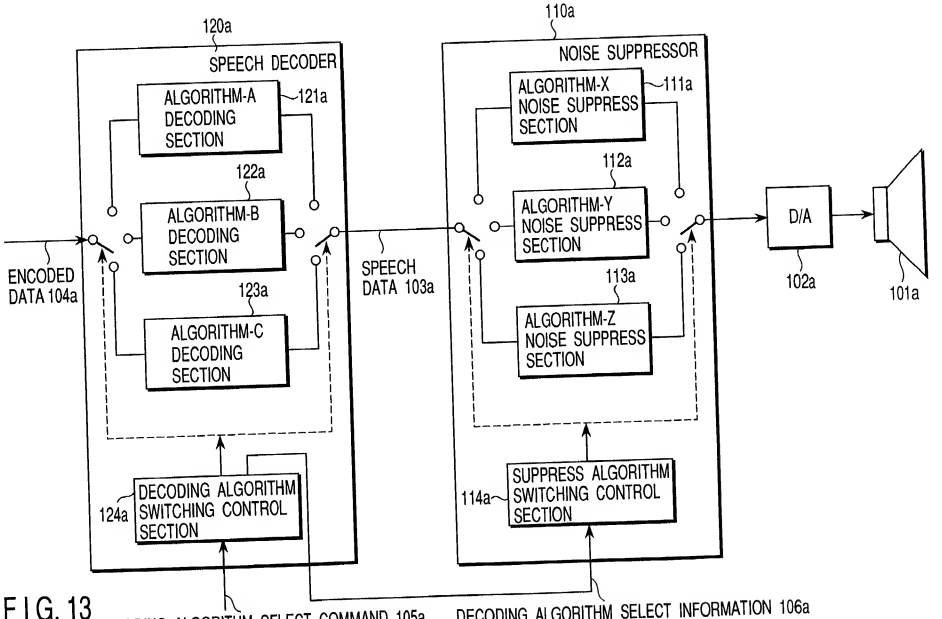

FIG. 13

OBLON, SPIVAK, ET AL.
DOCKET # 208371US2S
INV: Takeshi TANIGUCHI, et al.
SHEET 12 OF 20

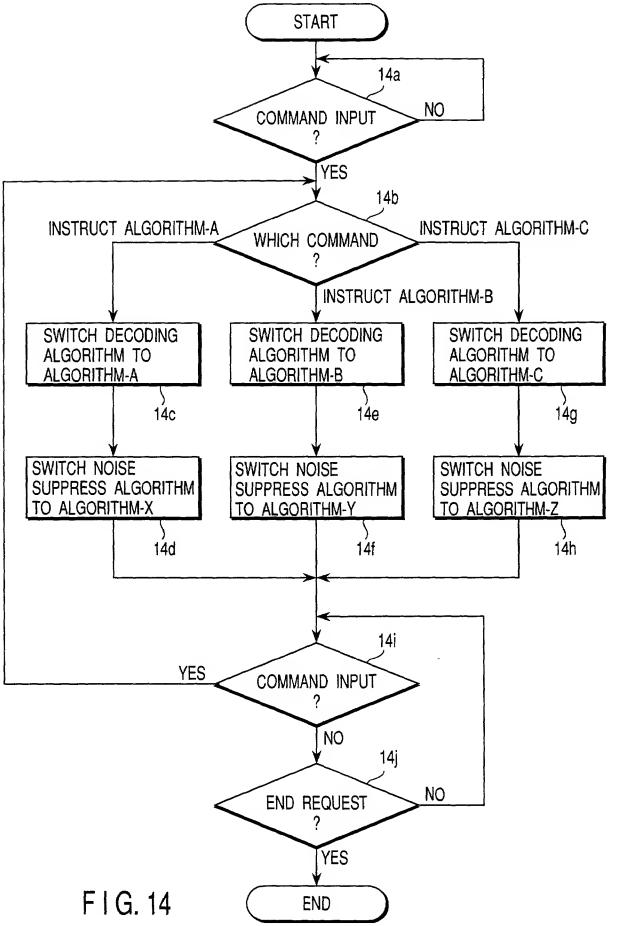
START
14a
COMMAND INPUT ?
NO
YES
14b
INSTRUCT ALGORITHM-A
WHICH COMMAND ?
INSTRUCT ALGORITHM-C
INSTRUCT ALGORITHM-B
SWITCH DECODING ALGORITHM TO ALGORITHM-A
SWITCH DECODING ALGORITHM TO ALGORITHM-B
SWITCH DECODING ALGORITHM TO ALGORITHM-C
14c
14e
14g
SWITCH NOISE SUPPRESS ALGORITHM TO ALGORITHM-X
SWITCH NOISE SUPPRESS ALGORITHM TO ALGORITHM-Y
SWITCH NOISE SUPPRESS ALGORITHM TO ALGORITHM-Z
14d
14f
14h
14i
YES
COMMAND INPUT ?
NO
14j
END REQUEST ?
NO
YES
END

FIG. 14

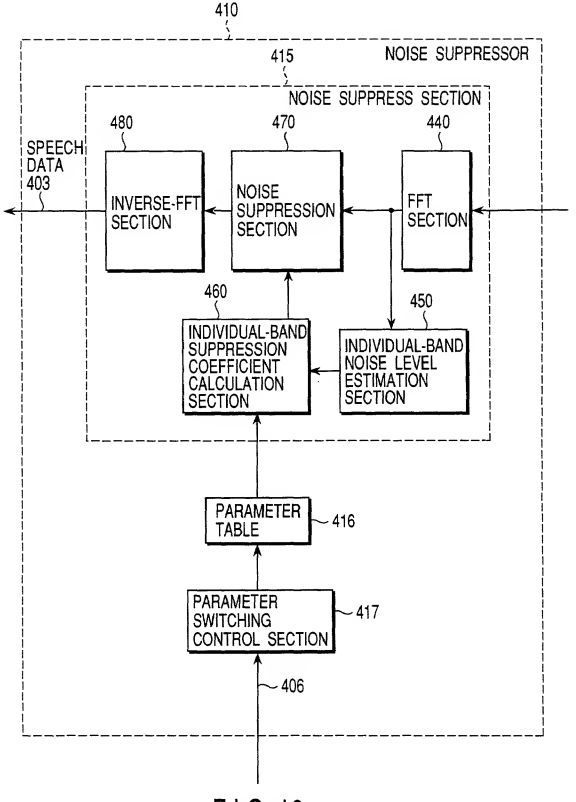
410
415
NOISE SUPPRESSOR
NOISE SUPPRESS SECTION
480
470
440
SPEECH DATA 403
INVERSE-FFT SECTION
NOISE SUPPRESSION SECTION
FFT SECTION
460
450
INDIVIDUAL-BAND SUPPRESSION COEFFICIENT CALCULATION SECTION
INDIVIDUAL-BAND NOISE LEVEL ESTIMATION SECTION
PARAMETER TABLE
416
PARAMETER SWITCHING CONTROL SECTION
417
406

FIG. 16

	BAND 0	BAND 1	...	BAND M-1
BIT RATE A	C(A,0)	C(A,1)	...	C(A,M-1)
BIT RATE B	C(B,0)	C(B,1)	...	C(B,M-1)
BIT RATE C	C(C,0)	C(C,1)	...	C(C,M-1)

FIG. 17

	BAND 0	BAND 1	...	BAND M-1
BIT RATE A	C(A,0)	C(A,1)	...	C(A,M-1)
BIT RATE B	C(B,0)	C(B,1)	...	C(B,M-1)
BIT RATE C	C(C,0)=0	C(C,1)=0	...	C(C,M-1)=0

FIG. 18

	BAND 0	BAND 1	...	BAND M-1
BIT RATE A	C(A,0)	C(A,1)	...	C(A,M-1)
BIT RATE B	C(B,0)	C(B,1)	...	C(B,M-1)=0
BIT RATE C	C(C,0)	C(C,1)	...	C(C,M-1)

FIG. 19

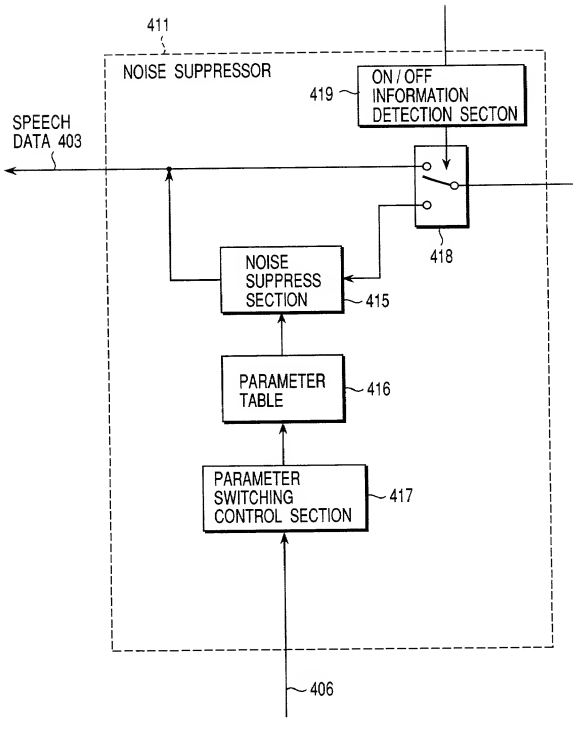
411
NOISE SUPPRESSOR
419
ON / OFF INFORMATION DETECTION SECTON
SPEECH DATA 403
418
NOISE SUPPRESS SECTION
415
PARAMETER TABLE
416
PARAMETER SWITCHING CONTROL SECTION
417
406

FIG. 20

OBLON, SPIVAK, ET AL
DOCKET #: 208371US2S
INV: Takayuki TANIGUCHI, et al.
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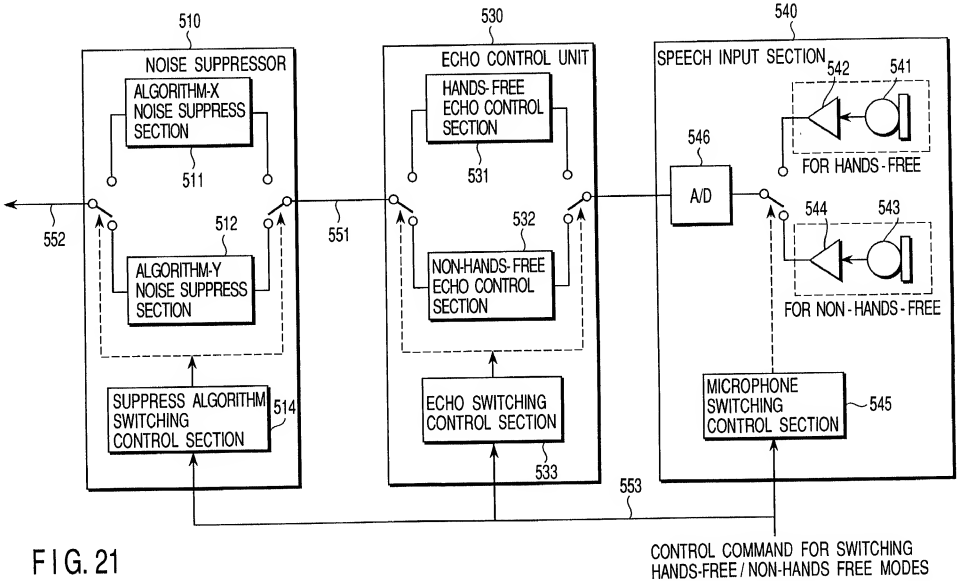

FIG. 21

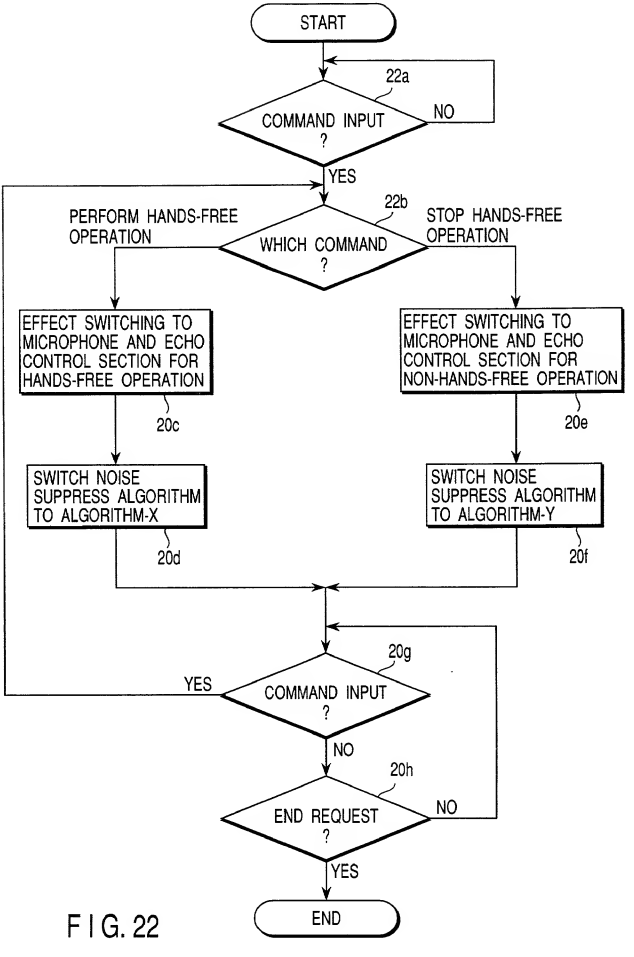
START
22a
COMMAND INPUT ?
NO
YES
22b
PERFORM HANDS-FREE OPERATION
WHICH COMMAND ?
STOP HANDS-FREE OPERATION
EFFECT SWITCHING TO MICROPHONE AND ECHO CONTROL SECTION FOR HANDS-FREE OPERATION
20c
EFFECT SWITCHING TO MICROPHONE AND ECHO CONTROL SECTION FOR NON-HANDS-FREE OPERATION
20e
SWITCH NOISE SUPPRESS ALGORITHM TO ALGORITHM-X
20d
SWITCH NOISE SUPPRESS ALGORITHM TO ALGORITHM-Y
20f
20g
YES
COMMAND INPUT ?
NO
20h
END REQUEST ?
NO
YES
END

FIG. 22

T00T50*SE225860

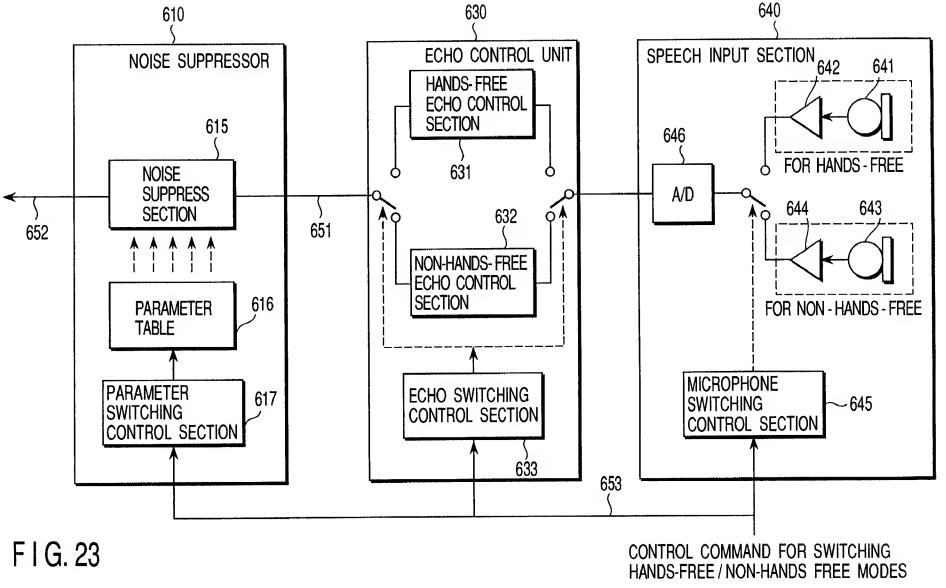

FIG. 23

OBLON, SPIVAK, ET AL
DOCKET #: 20837US2S
INV.: Takayuki TANIGUCHI, et al.
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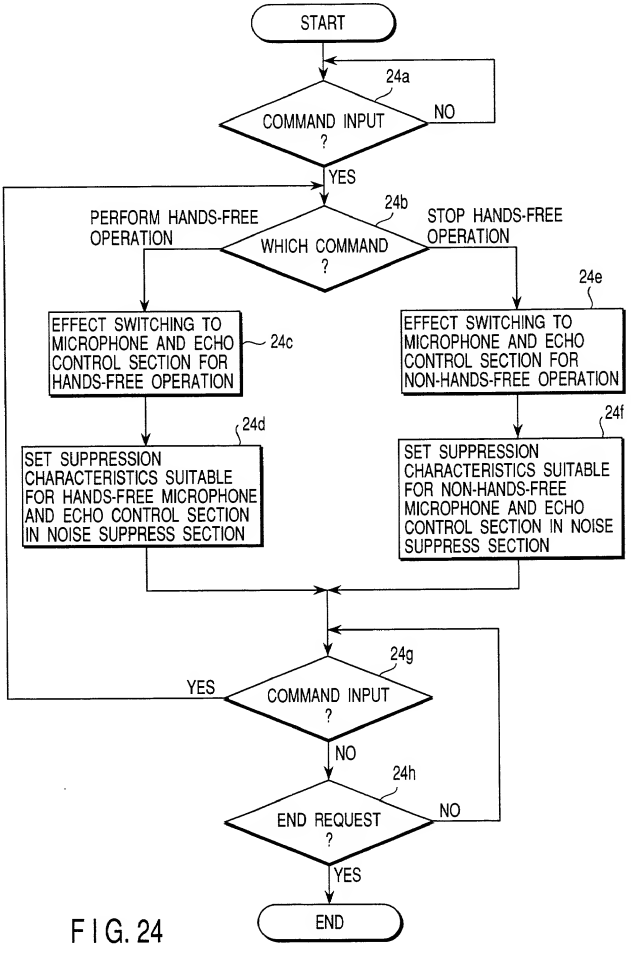
START
24a
COMMAND INPUT ?
NO
YES
24b
PERFORM HANDS-FREE OPERATION
WHICH COMMAND ?
STOP HANDS-FREE OPERATION
EFFECT SWITCHING TO MICROPHONE AND ECHO CONTROL SECTION FOR HANDS-FREE OPERATION
24c
24e
EFFECT SWITCHING TO MICROPHONE AND ECHO CONTROL SECTION FOR NON-HANDS-FREE OPERATION
24d
SET SUPPRESSION CHARACTERISTICS SUITABLE FOR HANDS-FREE MICROPHONE AND ECHO CONTROL SECTION IN NOISE SUPPRESS SECTION
24f
SET SUPPRESSION CHARACTERISTICS SUITABLE FOR NON-HANDS-FREE MICROPHONE AND ECHO CONTROL SECTION IN NOISE SUPPRESS SECTION
24g
YES
COMMAND INPUT ?
NO
24h
END REQUEST ?
NO
YES
END

FIG. 24